

Adjustment procedure

1. Bobbin thread tension

To properly operate the sewing machine, it is important that needle and bobbin thread tensions should be well balanced. Generally, it seems that bobbin thread tension is not so carefully adjusted as needle thread tension. Comparing with needle thread tension, bobbin thread tension is lower and fine adjustment for the tension is necessary.

1) Adjustment procedure <Fig. 27>

Adjust the tension by tightening the screw in bobbin case. Slight moving of the screw only makes the tension change greatly.

Turning the screw in the direction **A** increases the tension, and turning in the direction **B** decreases the tension.

2) How to measure the tension <Fig. 28>

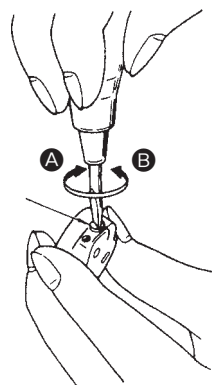
Measure the tension when slowly drawing out thread from bobbin case using the sector tension gauge or the dial tension gauge (market-available).

Advice :

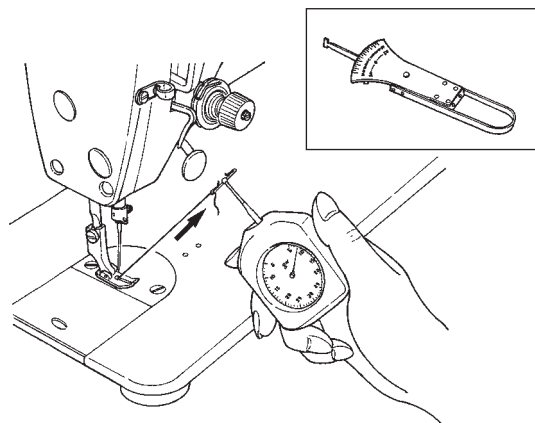
When using the bobbin case with idling prevention spring, there is no meaning even if measuring the tension in the state that the bobbin case is taken out from the hook.

In this case, set the bobbin case to the hook, draw out bobbin thread from the throat plate and measure the tension while pulling out the thread in the slant direction to this side. <Fig. 28>

(Fig. 27) Bobbin case



(Fig. 28) Sector tension gauge
Dial tension gauge



2. Needle thread tension

1) Adjustment procedure <Fig. 29>

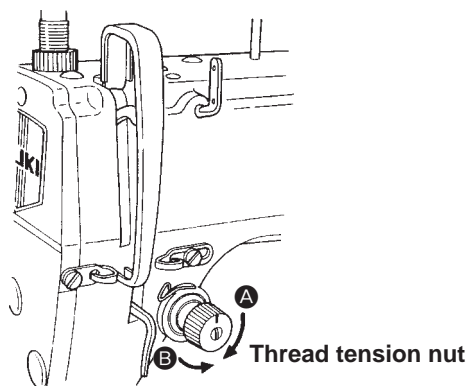
Perform the adjustment using the thread adjustment nut. Turning the nut in the direction **A** increases the tension and turning in the direction **B** decreases the tension.

When performing the adjustment, it is important to balance the tensions of needle and bobbin threads. Adjust the needle thread tension to the bobbin thread tension after adjusting the bobbin thread tension.

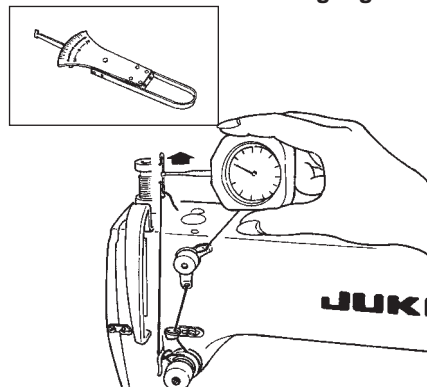
2) How to measure the tension <Fig. 30>

Measure the tension in front of the thread take-up lever using the sector tension gauge or the dial tension gauge.

(Fig. 29) Needle thread tension adjustment



(Fig. 30) Sector tension gauge
Dial tension gauge



3. Presser foot pressure

Height of the presser spring regulator which is called “chimney” is generally referred to the presser foot pressure. However, even when the presser foot pressure is the same, the height of this regulator will change in accordance with the kind of presser foot or pressure spring.

1) Adjustment procedure

Loosen nut ② of presser spring regulator ① shown in <Fig. 31> and screw in screw ① in the direction ④ to increase the presser foot pressure. To decrease the pressure to 1 to 3 kg, replace the presser spring with the following ones.

For light-weight materials : B1505-227-T00A

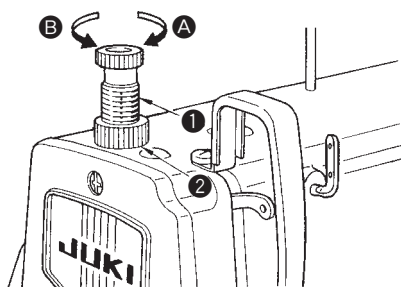
For extra light-weight materials : 111-62104

For NF : 111-05202

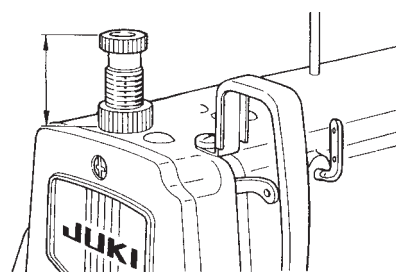
2) How to measure the pressure

Measure the height to adjust the pressure using the slide calipers or the scale. <Fig. 32>

(Fig. 31) Presser foot pressure adjustment



(Fig. 32) Height adjustment



• Presser foot pressure measuring jig <Fig. 33>

Hook a market-available spring balancer to the string in the top end and slowly lift it.

Double of the value when the top of the presser foot leaves from the throat plate is the presser foot pressure.

4. Thread take-up spring

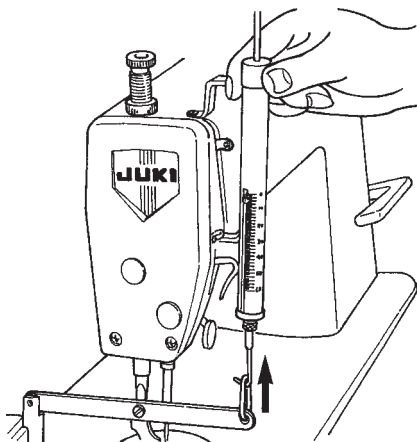
The basic adjustment of the lockstitch sewing machine is performed in the three places of the aforementioned bobbin thread, needle thread and presser foot pressure. However, the part to be confirmed next is the thread take-up spring <Fig. 34>

A problem occurs when the thread take-up spring functions excessively or does not function.

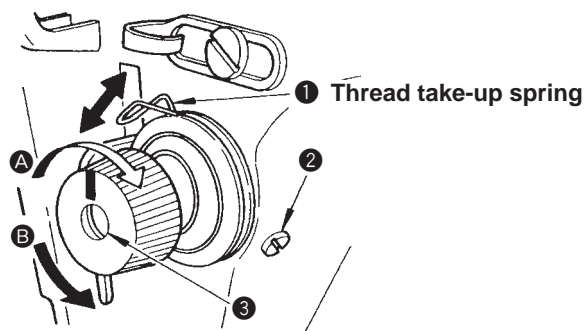
1) How to adjust the stroke (thread absorption amount)

Slightly loosen setscrew ② shown in <Fig. 34>, turn tension post ③ in the direction ④ to increase the stroke and turn it in the direction ⑤ to decrease the stroke.

(Fig. 33) Presser foot pressure measuring jig and spring balancer



(Fig. 34) Thread take-up spring adjustment



2) How to measure <Fig. 35>

Measure the moving amount of needle thread with a ruler or the like when the needle thread is drawn out to the maximum from the presser bar thread guide . Fix the needle thread in front of the tension disk and measure the stroke in the state that the presser foot is lowered and the feed dog is sunk.

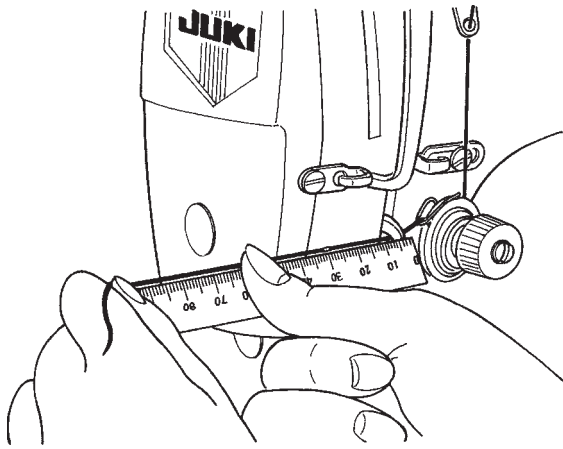
3) How to adjust the tension

Adjust the tension with tension post ③ located in the center of needle thread nut <Fig. 34>. Turn the tension post in the direction ④ to increase the tension and turn it in the direction ⑤ to decrease the tension.

4) How to measure <Fig. 36>

Draw out the needle thread from presser bar thread guide and measure the tension when the thread take-up spring moves by approximately 1 mm.

(Fig. 35) Thread take-up spring stroke measurement



(Fig. 36) Thread take-up spring tension measurement

